



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

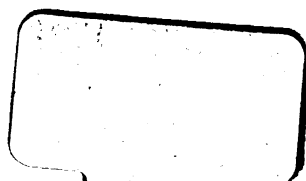
About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

NYPL RESEARCH LIBRARIES



3 3433 07025472 1



YFH
Butler

1

EVERY BOY'S BOOK

~

~

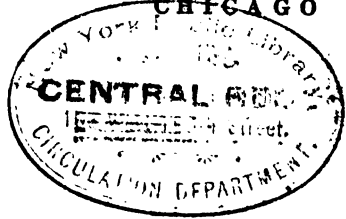
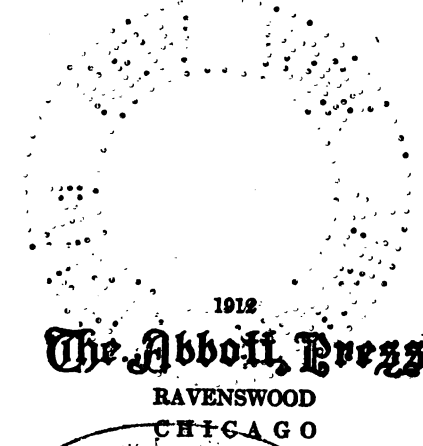
EVERY BOY'S BOOK

BY
GEORGE F. BUTLER, M. D.

CL. REISSER JUN 24 1912

lu

17-



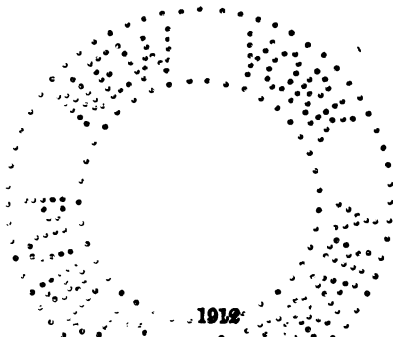
EVERY BOY'S BOOK

BY
^{DC}
GEORGE F. BUTLER, M. D.

COLLEGE LIBRARY
JUN 9 1912

cu

17-



1912

The Abbott Press

RAVENSWOOD

CHICAGO

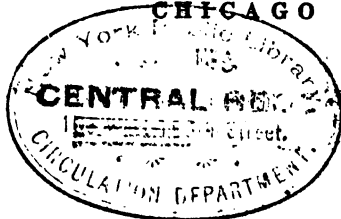
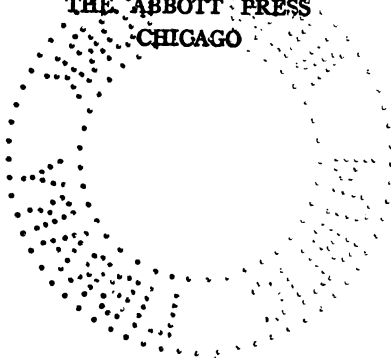


IMAGE TO CENTRAL OBJECT

Copyright 1912
THE ABBOTT PRESS
CHICAGO



128702

176

131

PUBLISHER'S NOTES

This is the first of a series of books on "How to Live," by Dr. George F. Butler. These books range from childhood to old age. The boy and the girl, the young man and young woman, the young husband and young wife, middle-aged people, and old people are instructed in these books in matters of the utmost importance to their health and happiness. The second in this series is "Every Girl's Book." These two books are especially intended for boys and girls from ten to fourteen years of age, but every father and mother should read them, so they, too, can know the truth about these great sex facts, and be prepared to answer children's questions—now sometimes troublesome.

RECEIVED JUN 24 1942

CONTENTS

The First Appearance of Life on Earth	1
The Growth of Life Forms is Likened	
to the Growth of Baseball	9
The First Flower	19
The Stamen and the Ovary	27
How Plants Became Animals	38
The Necessity of the Male and Female	
Principles	48
The First Land Animals	55
Where a Boy Comes From	65
Summary	74

PREFACE

The greatest duty of mankind lies in the proper uprearing of our children. The fact is recognized, but is the duty fulfilled? Do we rear our children as we should? There is but one answer: We fail. Teaching them many things for their good, we yet keep from them ignorantly, foolishly, with a hesitancy and neglect unpardonable—knowledge, the possession of which is essential for their future welfare.

The first necessity for well-being is a healthy mind in a healthy body. We can give our children that, if we will, by teaching them all about the body, its source of life, its different functions, and its care. The child should grow

to maturity knowing that the human body is something fine, something that accomplishes good, something to be proud of in every way. Above all should the child be taught all concerning the process of reproduction, just as it is taught the action of the stomach or of the brain. By so doing, we can produce a better and healthier and happier generation to follow ours. By what strange and mistaken impulse in the past such absolutely required teaching has been so studiously withheld is beyond all comprehension.

We want the best for our children. We want them to grow up with right thoughts and habits, yet we keep from them the knowledge without which their thoughts and habits will surely be imperiled when there arises in them the generative instinct, which has its effect upon both male and female youth alike.

We give them no information as to sexual matters; and, when it comes to them, it is too often but in the way of half-truths, mysterious, exciting to the imagination, and dangerous.

Yet how simple and natural the giving of this information might be made; and how easily the child might be safeguarded! Mankind has demands which must be gratified. We have hunger; we have thirst; we have the impulse of reproduction. Each is right and natural. There should be no difference in the consideration of either of these wants. All about them the child should be taught, from the beginning, so that all will be natural and right and commonplace and a matter of course long before the age is reached when the sexual instinct is developed.

Is not this reason? Is it not healthful,

logical, common sense? Is it not the wholesome and right and proper view?

Nature is devoted to reproduction. From the cell to the flower, and so on upward, the creatures of the world are but renewing themselves, and the learning of this is the greatest and most beautiful of all studies. All this the child can be taught.

Elementary biology, or the study of subjects of what we call zoology and botany combined, can be made the most attractive of studies to any child who has learned to read. The boy or girl may be taught that the trees and flowers are living things that are beautiful and are male and female. The child may be shown how the bees carry the pollen from flower to flower, and how other plants and flowers are produced in that way.

He can be taught the wonder of seed, and its consequences. He can be shown the birds in their mating, and the marvel of the egg, and why it can produce a chicken. And thus the child, boy or girl, may be led on, through the gradations, to a study of the human body, and how reproduction is provided for there as in the bodies of all other living things, vegetable or animal.

Before the child, boy or girl, has reached the age of ten, long before the sex instinct has been aroused, the sexual lesson will have been learned innocently and thoroughly and, when the change comes, it will be as no bewildering, exciting thing, but something anticipated, and received with a sense of understanding and responsibility.

This knowledge almost unknowingly acquired as a child, will mean health

of mind and of body, and the avoidance of what may result most evilly.

How is sexual instruction given now? In tens of thousands of instances—no doubt in the majority—not at all. Lectures to youth of either sex are given sometimes, but only when they have reached what is called “the age of understanding.”

Here is where parents err, and seriously. The teaching has been deferred too long. The young of either sex, long before puberty, have acquired some knowledge of the mystery—which should have been no mystery at all—and late teaching, however sound and wise, but gives an added and inviting direction to the subject suddenly made to assume a new and startling importance. It arouses curiosity, and more. It may sometimes be harmful.

As for the youth never taught at all, those who acquire their knowledge only through accidental sources—usually incapable, and too often vicious—their case could not be worse. They are unprepared for one of the tests and demands for life. Their parents are guilty.

There is nothing impure in nature. To guard the children, to prepare them for every phase of life, is the parents' duty. The child is pure, and to the child all things are pure. Teach the child, simply as a matter of course, all about the ways of reproduction, and to the boy or girl purity will remain when the age of sexual sway and impulse comes. This is the only law in the case. Let it be followed, and the generation to follow will be clearer, wiser, and healthier than is the present one.

It is my hope that this "Every Boy's

Book" (with "Every Girl's Book" to follow) will afford the means so long needed and desired for teaching children what they should be taught. I have tried to tell the story of sex naturally, in a clear and simple way, from the development of life, and of life's relations, from protoplasm all through organic life up to mankind. Its teachings should result in wide promotion of the innocence of knowledge which is better, infinitely, than the imperiling innocence of ignorance.

George F. Butler, M. D.

Chicago, Ill.

January 28, 1912.

PROPERTY OF THE
CITY OF NEW YORK

I

THE FIRST APPEARANCE OF
LIFE ON EARTH

AS soon as a boy grows old enough to wonder and think about things that he sees in the world around him there is one question that he seems to be more curious about than all others; and that is, "How did I come here? Or how was I born?" There probably never lived a healthy, sensible boy who did not wish to know this before he was fourteen years old, because it is the most natural of all questions for him to want answered.

All good reasoning, all sound common-sense, begins at the root of every subject and works its way up, instead of jumping in anywhere and coming out nowhere.

2 THE FIRST APPEARANCE

and as this matter of birth is the beginning of our lives we naturally wish to learn what birth is almost as soon as we begin to think. In fact, we shall not be able to think wholly intelligently of anything else until we have found the correct answer to this first of all questions; and because so few people know just how to answer it, plainly and simply, so that any boy of fourteen may understand it perfectly, I shall try to do so in this little book.

Though the subject is not too complicated, in reality, after it is once well grasped, it is so beautiful that quite an education is required in order to appreciate it fully, just as you require a certain education in music in order to appreciate the best playing and singing. Poor musicians often try to sing a delightful song

or play a difficult piece, and the mess they make of the attempt is much like the mess made by some persons when they try to explain to a boy what life is and where boys come from.

If I know how to make the subject plain it is because it is a part of my profession to understand it. I have made a study of the subject, just as a professional musician has made a study of music; and if so many others cannot explain it rightly it is because they have not made a study of it, and know nothing of it except what they have heard, which may not be the truth. They are like the foreigner with his notions of baseball. All he knew of baseball was that he had seen the left-fielder running for a fly, which he caught and threw to first base to put a runner out. And the foreigner said:

"This is a queer game. The man runs hard for the ball, and when he gets it—what? Does he keep it? No, no, he quick throws it away again. Ah! It is a foolishness, this so great game what you call the ball base!"

Probably almost every boy in the world, if he is as old as fourteen, has heard at one time or another an explanation of life that is as funny as this man's notion of the national game, and just as sensible. And the reason why the statements are so far away from the truth is the same in both cases—lack of study, and lack of knowledge. The better a man knows a thing himself the better he can tell it to others, and nobody can know anything well without a thorough study of it from the beginning. So let us begin at the beginning.

There was a time, ages upon ages ago, when there was no life on earth, not even a hint or promise of it, in any form or degree. This is easily proved by science, but of course it is needless to go into that here. Just how the first sign of life came, or just where, we do not know. There are various opinions about it. But this we do know, that the first appearance of it was in the form of a cell, which we may liken to that in a honeycomb. It was a minute drop of matter like jelly, and we know that it arose from the meeting of the rays of the hot sun with the earth or the sea. That is, a ray of the hot sun, shining on the earth or the sea at a certain point, which was in just the right condition, produced the first form of life, and that form was what we have come to call a cell.

6 THE FIRST APPEARANCE

We have learned also that one of life's first and strongest qualities, a quality that was born with it and is a part of it, is growth. No sooner has a thing become alive than it begins to grow. It is its nature to do so, and grow it must or cease to live. There is no such thing in nature as standing still, though there may seem to be at times (as with the trees in winter, or the plants in the frozen ground), for we know that all is movement, either upward or downward, either to more life or to death. This property was born with the first cell, as the taste was born with the apple or the fragrance with the rose, and it persists in all living forms to this day.

Consequently, this first cell began to grow at once, as soon as it was born, and it did not take it long to become so

large that it could not contain itself. Its soft structure was not strong enough to hold the added weight together as one, and it fell apart, dividing into two halves, so that there were now two cells in the world, both just alike, the one having sprung from the other.

In time these cells produced others in the same way, and these made others, and so on and on. And by and by, instead of dividing in halves, these earliest forms, carrying out the law of growth that was born in them, began to break in a little different way. For, as we shall see as we go on, there is a law of variation born with all things as truly as there is a law of growth. Now the cells began to break in such a manner that a number of smaller cells were born together, thus hastening the process of

reproduction immensely, and it was then only a matter of time when the descendants, the children, of this first cell should become exceedingly numerous. Up to this time, however, they were all of them single cells, and each one of them had a mother, so to say, but no father. This was the way in which life first came to earth.

II

THE GROWTH OF LIFE FORMS IS LIKENED TO THE GROWTH OF BASEBALL

THESE numerous cells, bearing in their very nature the necessity of growth and variation, began gradually to invent new ways of growing. I say *invent*. All scientists are not yet agreed with each other that this is a proper term to use with reference to a plant or animal, but I employ it here for want of a better word. The question of whether the earlier forms of life can think and choose is aside from our inquiry, but it is so certain that they do something very like it that I shall continue to apply the

10 GROWTH OF LIFE FORMS IS LIKENED

word to them for the sake of brevity and clearness.

So, it was as if in time the old way became monotonous to these cells, from constant repetition, and new ways were sought as a change, each change being an upward step. As a boy tires of doing the same thing over and over again, and eagerly seizes on some different way of doing it, no matter what it may be, so these cells seemed to act. They took new ways of growing and reproducing themselves, and each way seemed better than the last, just as if with experience had come knowledge, as with us, and they were able to improve as they went along. We are not certain just which one of the many new ways they took next, but one of the earliest is the following:

A number of cells would range themselves end to end, like beads on a wire, and a number of other cells would do likewise, and so on and on, and these strings of cells would move up to each other and lie side by side, until a part of the surface of the pond in which they grew would appear as if it were covered with a slimy mass of green weeds. In fact, this was exactly what had happened, for they were weeds, and this is the way in which weeds are made up.

Each weed is a series of cells joined together as beads are strung on a thread or wire. They were so in the long ages ago, and they are so to-day. The cells in each of the two weeds, which lay close together, would begin to swell and bulge toward each other, as they felt the impulse of growth, and when the pressure

12 GROWTH OF LIFE FORMS IS LIKENED

became too great for them to be contained in their coverings the cells on one thread would burst and run into the cells on the other thread.

The one cell sought the other by natural attraction, as the iron filings seek the magnet, or as boys try to be with those they like best, or as a hungry animal is attracted by food. When the two cells had become one in this way they remained apparently motionless for a while, as a kind of egg. I say *apparently* motionless; they were not so, really, but they were so small in size and their movements were so slow that one must have a microscope in order to see them at all, much more note any movement on their part.

But the law of growth was still at work within them, if invisibly so, and

by-and-by it forced out of the eggs a brand-new set of cells which were just like the former ones. While the first cell, in order to reproduce itself, parted and became two cells, these later cells varied the process by mingling with each other. But each action had the same result, the production of new forms, or children.

The cells apparently found this later way better than the other, for, among other improvements, it resulted in better children. And we have discovered that, in the same way, when any plant or animal has reached the limit of its growth, it produces the best and healthiest offspring by joining its forces with another of its own kind.

This is why they have come, in all the higher grades, to mate, or marry as we

14 GROWTH OF LIFE FORMS IS LIKENED

call it. For the nature of everything that grows seems to be to learn by experience, as we do, and experience taught these early cells that merely to become too heavy, and so to fall apart, was a poor way of growing and reproducing themselves, and that to join strength with each other was a much better way. It was quite as easy, and it produced better results.

At this point in the history of life forms we find an interesting, puzzling, and often-asked question answered, namely, "Which came first, the hen or the egg?" For these cells, born thousands and thousands of years before a hen was ever thought of, were the beginnings of the egg which the hen to-day lays.

Not only that, but the egg itself, as we know it, the egg that we eat for break-

fast and make up into ice cream and puddings, is composed of these very cells, and it is from these cells in the egg that the hen is born. In fact, the egg not only came before the hen but it came so long before it that the hen must have quite forgotten the fact, and if she should be asked where she came from, and could answer, she would doubtless answer as absurdly as many people do when asked where a boy comes from.

But from the cell which we are now considering it is a far cry to a hen's egg, and a much farther one to the egg from which boys come. Still, this primitive cell was the mother of them both, and, through the laws of growth and variation, it became both, as I am about to show you.

In writing of these simple growths, in his delightful and valuable book, "The

Story of the Plants," Mr. Grant Allen says:

"In the thread-like pond weeds the two uniting cells are practically similar. They are not distinguished as male and female. Neither of them is larger or smaller than the other; neither of them is more active or more vigorous than its consort. But in the higher plants a marked difference invariably exists between the two cells that join to form the new individual, a difference of kind: we now have *sex* appearing. One of the cells is smaller and more active; it is called a *male cell* or *pollen cell*. The other is larger, richer, and more passive; it is called a *female cell*, or *ovule*—that is to say, in plain English, a little egg. Now the nature of the ovule is such that it cannot grow out into a seed or young

plant till it has been united with and fertilized by the smaller but more active and lively pollen cell."

In this truth we see how, carrying out the laws of growth and variation that were parts of its nature, the descendants of the original cell improved upon its method of reproduction, becoming more complex as they went along.

They may be likened to boys learning to play ball. At first, when the boy is very small, he tosses the ball in the air and tries to catch it, playing with it alone until, with experience and practice, he can catch fairly well for a little fellow; then he gets another little fellow, and they pass the ball between them, both becoming gradually more expert.

In time the mere playing "pass" becomes monotonous, and then, as the law

of growth is in the boy, as it is in the cell, he tries new ways. He invents a bat, and "knock-up-and-catch" emerges into view. This does very well for a while, but in its turn becomes monotonous, and then "single base" is invented. This in turn runs into "New York scrub," which changes to match games between schools; finally comes the great national game.

According to a principle similar to that by which the feeble ball tossings of the child grew into the scientific game of baseball as we see it played on the diamond to-day, the first cell, so feeble that it seemed scarcely able to move at all, grew in the course of time to become men and boys; and to show the steps, or as many of them as are necessary, by which this was accomplished is the object of our inquiry here.

III

THE FIRST FLOWER

THERE are many steps of progress between the thread-like weeds (which may be seen even to this day in the shape of green, slimy growths around the edges of stagnant ponds in the spring of the year) and a plant so much higher in the scale of life as a beautiful flower, but it is not necessary to take all these steps here, for what has already been said furnishes a sufficiently broad hint of how the change from the one to the other came about. It was forced by the laws of growth and variation.

The simple string composed of cells floating in a pond gradually grew into a plant rooted in the earth, after trying,

we believe, many different methods of growing and reproducing, some of which failed and some of which succeeded, because they were better ones.

Having once become rooted in the solid earth, these cells were compelled to search out new methods of living; and taking counsel from experience, as we may say, they began to do right over again what the earlier cells had done in the water; only, as the surroundings were different, they were obliged to change their methods. It was the method only that was changed. The principle remained the same.

As the first cell, in the process of growth, became so large that it fell apart, and afterwards its descendants broke into many small pieces, or children, so this series of cells which had now

become rooted and could not move about, grew until it also fell apart, bursting into tiny children called buds.

In this early method there was, as was the case with the first cells, a mother only, without a father, and consequently it was but a feeble kind of growth. The earliest examples were probably much like those pale, green, loosely-rooted lichens that we may see nowadays getting a scanty living on barren seashores.

The cells were dissatisfied with this result, as the growing boy is dissatisfied with playing "pass"; and as the boy in his search for improvement, feeling the need for growth, finally invents a bat with which to hit the ball, so these cells invented something in order to vary the monotony and fulfil the law of growth, and that something was a flower.

Now we do not suppose that, when the first bat was invented, its inventor had any idea whatever that he had made such a vast stride in ball playing that, by aid of this bat, ball playing would eventually grow into such huge proportions that whole nations would be delighted with it, and would elevate it into a science of pleasure which, for us Americans at least, has no equal in the world of sport. Yet this is just what has happened.

In like manner we do not suppose that the simple little plant, when it produced the first flower that the world ever saw, had any idea that it had made such a vast stride in the process of form building that, by aid of this flower, life would eventually increase to such vast and varied proportions as we see that it has

done. Yet as the bat was to the ball playing so was the flower to life, only vastly more.

As the boy seized on the bat for the moment's use, as we may suppose, so the cell seized on the flower. It had no forethought. In the lower, that is the earlier, stages of life there is doubtless no such thing as forethought, or at all events but very little, whether with plants, animals, or men.

It is not until reason, logical thought, enters into being that future results are considered. So the flower, like the ball bat, came into existence as an end in itself, without doubt, with no notion of the astounding results that would follow in time.

But this flower had no sooner become an accomplished fact than it, in turn,

following the always present law of nature, began to grow, and like everything else that grows, sought the best way to reproduce itself, so that it could continue growing and carry on the race.

In this search and process it has since then evolved many parts, but it is necessary to mention here only two of them, one of which is called a stamen and the other an ovary.

The stamen is a stem that stands upright within the flower, bearing at its top a little case filled with a yellow powder, which we call pollen. The ovary is a kind of sack, or bag, lower down in the flower, and in this are contained a number of little seeds or eggs.

Now see how nature repeats herself, and yet in such a delightfully subtle manner that one who is not a close

observer would never discover the fact. As the first cell grew large and then burst into two cells; as the first series of cells strung on the thread swelled and burst, the one into the other; as still again, in the case of the growing plant, the growth burst forth as buds, so now again, in this new form of a flower, the life within forced it apart and into a number of pieces, its children.

This it did in a way which, though it seemed wholly new at first glance, was still on the same old principle of reproduction. The pollen was forced into the ovary, where it remained with the seeds for a while, as the one cell remained mingled with the other as a kind of egg, and finally came forth as buds, in each one of which was wrapped a tiny copy of the plant and flower that produced it.

As the second cell that ever came into the world was an exact reproduction of the first, from which it sprang, so the second flower was a reproduction of the first, with this difference—that it was smaller, in fact, very much smaller. But this difference was more than made up by their greater number, as was the case with the cells that broke into small pieces. And, like these little cells, these later children immediately began to grow.

IV

THE STAMEN AND THE OVARY

HAVING seen how the first flower came into being and began to grow into others, or to produce others, in the shape of children, we will now consider such of its ways of growth as are necessary to our understanding of where a boy really comes from, and how he can be born.

In this early flower, as is the case with all the simplest flowers to this day, there was only one stamen and one ovary, and as the duty of the stamen was to produce pollen, which acted as the father of the young plants, we came in time to call the stamen the *male principle* of the plant; and as the duty of the ovary was

28 THE STAMEN AND THE OVARY

to bear tiny seeds or eggs which, becoming covered with pollen, acted as the mother of the young plants, we came to call the ovary the *female principle* of the plant. Thus it was at this point in the development of life that *sex*, in its real meaning, came into existence. After the sun, which, shining on a certain point on the earth, produced the first cell, the first father was a stamen in a flower and the first mother was an ovary. There were no men or animals on earth then. And, from that time onward up to this minute, with a few exceptions which need not be noticed here, nothing could be born without a father and mother, whether it was a buttercup in a meadow, a fish in the sea, a horse or cow in the fields, or a boy in his home. While the early cells had a mother only, no father

THE STAMEN AND THE OVARY 29

having yet come into existence, no sooner had the cells produced both a father and a mother, than they saw, as we may say, that they had finally arrived at the best way of growing and reproducing their kind, and they did not seek any farther in this direction. All their inventiveness now seemed to become turned toward the various methods which these fathers and mothers should employ to grow and propagate their kind

In the first flower, as we have seen, both the male and female principles, both the father and the mother, lived together in one plant, in a bewilderingly beautiful variation of the way in which the two earliest cells lived together in the beginning as one. And here nature repeats itself, as it does at every point where in the history of life a new form

30 THE STAMEN AND THE OVARY

appears, but it does so with such abundant and fertile resources of invention that it requires study and thought on our part to learn that it is indeed repetition and not something entirely new in every respect.

As the early cells gradually became dissatisfied, as we may say, with merely splitting themselves apart in order to allow their growth to overflow into the production of children, and, stringing themselves into threads caused some of them to burst and flow into others, so now the flower, dissatisfied after a time with having the father and mother living as one plant, followed the plan taken by the earlier cells. It wished, apparently, as they had wished, to grow and reproduce, not alone, not all by itself, but in company with another, some other of its

own kind. It could bring forth little ones by itself, without aid from outside, by merely dropping its pollen into its own ovary at the right time of year; but this method did not suit it, for, among other reasons, as we believe, the children coming from this self-reproduction were, as was the case with the early cells, not sufficiently strong and perfect.

Therefore the plant took the same old way of those cells. It sought and mingled with other plants of the same kind. The pollen from one flower would, instead of dropping into its own ovary, seek some other flower of the same family with which to mingle its pollen, and then the favorable results were seen in the form of better children.

But how could a plant do this? How was it possible for a flower that was

32 THE STAMEN AND THE OVARY

rooted in the solid earth, unable to move, to mingle its pollen with other plants which may have been some distance away, and bring forth children? It must be remembered that the ovary of each flower, though it contained the seeds or eggs from which the young plants were to come, could not produce these young ones unless its eggs were first covered, or fertilized, by the pollen from some stamen.

Each plant had its stamen and ovary so placed that it was easy for them to mingle their products together, for the ovary was right beneath the stamen, so that the stamen had only to grow until its pollen was ripe, when it would fall directly into the ripe ovary beneath. But in order to send its pollen to a distant plant, as well as to receive an-

THE STAMEN AND THE OVARY 33

other's pollen into its own ovary, it was obliged to bring a new element into use. And this it did as the boy invented a bat for the ball, and as, earlier in its existence, the plant had invented the flower itself. Only in this instance it brought into use more than one element; it brought several elements, namely, it utilized the wind, and even employed insects and birds. But insects and birds came later than the period of our inquiry here, and we need only refer to the wind.

As the pollen, when it became ripe, was sure to fall into the ovary on the same plant unless some means were taken to prevent that, the flower arranged its growth so that the stamen and ovary should become ripe not at the same time but at different times.

34 THE STAMEN AND THE OVARY

When the pollen was ready to fall the ovary would be closed, so that the yellow powder, though it might fall on the ovary, could not enter, but must roll off. And when the ovary was ripe the stamen would not be bearing pollen. Thus if the stamen was to fertilize any ovary it must be the ovary of some other plant, and if the ovary was to be fertilized it must be by some other plant's pollen.

The flower burned all its bridges behind it, if we may put it that way, and left but one road open, and that was straight ahead. It was at this point that the wind came into play.

For when the pollen on any flower was ripe, being very light and airy, the wind would blow it broadcast over the neighboring flowers, upon whose ovaries it would fall. Those ovaries which were

ripe at the time would receive it and close up, being thereby fertilized, and then would begin the process of fecundation, as was the case with the cells that mingled with each other, lying for a time apparently motionless.

Then would come children, new buds, which would grow into flowers. According to the same principle by which, as we saw, the thread-like cells burst and flowed the one into the other, and as the plant's pollen flowed into its own ovary, this plant's pollen flowed into the ovaries of other plants by aid of the wind.

It was in this manner that plants began to spread and, following the universal laws of growth and variation, to become in the course of long, long ages what we see them to be to-day—a vast world of infinitely varied and complex

36 THE STAMEN AND THE OVARY

vegetation, ranging in size, beauty, and usefulness from the simplest lichens to the gigantic trees of California; from the common, homely weeds of the ponds or roadside to the exquisite, fairy-like orchids of the conservatory; and from the plants that are deadly poison to human beings to the countless herbs and flowers employed by physicians for the healing of mankind's diseases.

But they have spread to a very much greater purpose than has been intimated even here. They have spread to become boys and girls, men and women. The first cell was the parent not only of the great and bewilderingly complicated vegetation of the whole earth, but it was the parent of all the people on the earth as well. This brings us to the point where the flower life began to change to become

THE STAMEN AND THE OVARY 37

animal life, which was the first immense stride toward the final consummation, the production of boys and girls from parents.

V

HOW PLANTS BECAME ANIMALS

SO far we have considered plants mostly as if they grew only on solid earth. Now it becomes necessary to turn to those that lived in the sea, for the reason that the ancestors of the boys of to-day were not the land plants, but the sea plants. The land plants are our cousins, merely, not our brothers and sisters, as the sea plants are.

At the time when the first plants came out of the water and became rooted in the solid earth they left behind them their brothers and sisters, who lived in the sea and reproduced themselves in their way, a way that, though it differed in appearance from the way

of the earth plants, was the same in principle. That principle was the law of growth, aided by the laws of repetition and variation, and in following it the plants were compelled to take other methods, methods that were adapted to the sea instead of to the land. Though these methods seemed to be entirely new they were in fact merely repetitions, over and over again, just as they were with the flowers that moved to the land. When in the progressive growths a change appeared it was always, as we can see by looking back, through the introduction of some new element to the old form, as the boy introduced the bat to ball playing, and as nature introduced the flower to the plant. The principle at bottom was repeatedly the same, though the application of it was a variation—which

28702

is one reason why the study of the subject is so fascinating and beautiful. Something new is continually coming up, which, when we have examined it thoroughly, we see to be merely an old friend in a new dress. For example:

At about the time when the first plants were bringing forth flowers on dry land their sisters were doing the same thing in the sea, and they were doing it in a similar way, a way that was the same at bottom, though it had to be varied to meet the conditions of the surrounding water instead of land.

Some of the sea plants, when they had flowered, when they had matured or become ripe, fertilized themselves, as we have seen that the land flowers did, for they also had a male and female principle, as their sisters had. Only instead

of pollen these sea plants possessed what we now call zoösperms, while both families had ovaries. With the sea plants it was as necessary for the zoösperms to mingle with the seeds or eggs in the ovary as it was for the pollen of the land plants to do the same. In this way alone could children be produced and the race be carried on.

But when the sea plant had arrived at the stage of growth which called for fertilization by others, rather than by itself, it did not content itself with remaining rooted while its zoösperms (or pollen) should be carried to another plant, and the zoösperms of another brought to it, as was the case with the land plant. It simply broke away from its roots and floated off, the water bearing it up until it should come in contact

with another of its kind, when the two principles, the male and the female, were mingled with each other, and in due season children resulted, as in the case of land plants. The floating away from the roots, carrying its fertilizer with it, was only a variation of the way in which the wind carried the pollen on land.

An early form of this kind of plant is the family to which the common jellyfish belongs, countless thousands of which you may see in the spring of the year floating and flapping along in the harbor. It is a family of which some members begin as plants growing at the bottom of the ocean and finish as animals swimming about more or less freely. In short, they mark the exact point at which plants, by the laws of growth and variation, become animals.

No plant on land ever became an animal; it was the sea plants that went through this strange and almost unbelievable change, and it was through these sea plants, after ages upon ages of struggle and variation and improvement, that a boy, all boys, came to be born.

But we are a long distance from that period now in our inquiry. We are farther from it than a boy, when he has just got hold of his first bat, is from the perfected game of baseball.

Nevertheless, once let the boy get the bat and begin on the ball with it, and the finished game is sure to come in time, by the laws of growth, which will force it into being. That is, it will come, but not with all boys. Some will never learn the game. And it was and is just the same with plants. Some remain to this day

just what their parents were at first, while others have evolved to the very height of life. All along the line, from the first cell to the last and highest product of growth in the world, there have remained individuals, and indeed whole families or classes, who never have improved and are to-day just what their ancestors were, eating and living and reproducing their kind in the same old primitive ways. They never have changed, and they never will change.

Yes, there are existing to-day specimens of every form of life that I have mentioned so far, from the simplest cell, which still reproduces by dividing in halves and becoming two cells, up to the flower which, on land or in the sea, has developed the male or female principle and seeks by complex ways to join itself

with another. Not only that, but there are existent to-day examples of every grade and upward step which I shall mention later on, from the flower to the boy. It is from these examples that we derive our knowledge of whence we came, for we are able to trace our descent almost as easily as we can that of baseball.

Just as "toss" and "pass" and "single-base" and "scrub" and school "match games" are played to-day and always by boys somewhere, so that we may if we wish study them at first hand, learning what they are like and how the earlier grew into the later, so we may see and study the different grades of life forms that were existent before us, for they are existent still.

Through them we learn by what methods we advanced, growing little by little,

age after age, from a mere drop of jelly, along the plant and animal stages, finally to become a boy.

The cell from which a boy of fourteen started, fourteen years ago, was a reproduction of that very cell which was the first life that the earth ever knew. And from the instant when he started, fourteen years ago, until the hour of his birth, when he came into the world a living, breathing baby, the boy passed through, while he was in the egg, many if not all of the forms that his direct ancestors had, during countless ages, gone through. He was compelled to take each form in turn for a short time, before he could assume the next higher or later.

But this is a little too far advanced for us to consider here, though every boy should know all about it, and learn it as

soon as possible. It would save him a great deal of trouble in one way and another. He can get the knowledge from books on biology. What we wish here is to follow the straight path to a perfect understanding of our origin as human beings, leaving such details as are not absolutely necessary to be learned from other sources.

VI

THE NECESSITY OF THE MALE AND FEMALE PRINCIPLES

THE simplest form of reproduction, as we have seen, is that of the earliest cells, which merely fall apart after they have grown too large to hold together as one. They have no organs, no structure, in the proper sense of the terms, but they are animals nevertheless, if only a kind of living jelly. They live and move and eat, though their eating is of a very primitive form, for it consists of an absorbing or engulfing, as they fold their bodies around any food with which they may come in contact. In this way they are enabled to grow and propagate by division, with its various modifications.

Then after a time a new element enters, as with the land plants, and the law of variation produces a hardened growth called a *nucleus*, such as we see in the jellyfishes, and this subdivides like the original protoplasmic cell, resulting in children of the same kind, which is a little improvement over the first results even if the method is so similar.

But in all these changes the new forms come slowly, at intervals so far apart that in consideration of the vast difference between the first and the last forms, between the single cell and the man or woman of to-day, the wonder is that there ever could be time enough to work all these changes, from the beginning of the world. But they were worked, nevertheless, and in the most beautiful ways imaginable.

50 THE NECESSITY OF THE MALE

The next change which occurred with these forms was this:

The animal, instead of parting itself in halves, neither of which could properly be called a father or mother, produced a number of exceedingly small particles of jelly, which we call *sporules*, or *zoöspores*, and these developed into separate individuals. Just as in the case of the land plants, these early sea animals, own cousins to the plants, could reproduce their kind without aid from their neighbors, and, still like the land plants, they came to be dissatisfied with this and began to seek other modes, until in time, with the large majority of them, the reproductive powers grew to be as varied as we have seen they were in the plants.

Only there was this difference between the two: While the plants brought their

generative organs to the surface, brought the stamen and ovary, as well as the other parts out where they could be seen on the plant, the animals included these organs more or less within the body. They grew *internal* buds, so to say, instead of external as was the way of the plants. And with the animals, as with the plants, it was necessary that the two parts, the male and the female, the father and the mother, be united in order that progeny might come. Neither one of them alone was capable of producing children.

Now mark well what comes here!

One of these products, that of the female, is a cell, like the body of a jelly-fish, only it is extremely small, so small that it is invisible without the aid of a microscope, and this is called the egg,

or ovum. It is produced by the ovary and, under certain conditions, is capable of growing into young animals, like the seeds in the ovaries of plants, but never without fertilization from the male principle. This male principle is the other product. It is in the form of tiny particles, which we call *zoösperms*. When they grow ripe, like the pollen of plants, and are set free, they are minute particles of jelly, formless, except that one end tapers to a kind of tail, and by rapidly wriggling this tail they are able to move in some degree. The contact of these particles with ovules or eggs is what brings forth children.

The *zoösperms* do not inject the children into the ovary, as seems to be the usual idea among boys. The beginnings of the children are already there, in the

ovary, and the use of the zoösperms from the male part is to wake them up, so to say, and give them life. And these zoösperms seek out and mingle with the eggs by natural attraction whenever the two are placed near together, as the cells in the parallel weeds did, and as boys seek out and associate with certain boys and not with others, and as the pollen mingles with the seeds in plants. This is the basis for all kinds of reproduction, whether of plants, animals, or the human race:

A male and female part are required in order to bring forth new bodies of any kind, and the male part is called the father and the female the mother. Every child, whether it be born a fish in the sea, an animal on land, or a boy, must first exist as protoplasm, or jelly, in the form

54 THE MALE AND FEMALE PRINCIPLES

of an egg in a nest inside the mother, and this egg must be fertilized by the zoösperms of the male, or father, before the child can come to life and finally appear in the sea or on earth as a living being.

Let us now see how this fertilizing is accomplished to-day by the different species which have evolved from the first crude cell.

VII

THE FIRST LAND ANIMALS

IT IS unnecessary here to go into all the minute details of the various methods of reproduction in animals of the sea, and show every step by which some of them finally came to live on land, as the plants did before them. But we may indicate the main steps, and these are all that are necessary to make plain where a boy comes from.

As the later forms appear the process becomes more complex, just as the game of base ball does, but even in the highest stages we observe the same wonderful principles of growth and variation that formed the lower, and always there is repetition and a new element. The

loftiest birth, like that of Emerson or Carlyle or Caesar, is at bottom a beautiful variation of the simple birth from the first cell; for the egg and the zoöspERM are merely parts of the same parent, parts of one whole, like the two pieces made by the division of this first cell, only they are internal, are inside the body instead of on the outside.

It would require a much larger book than this to show all the gradations between the two processes of reproduction, between the mere parting of a simple cell and the birth of a boy, but it can be shown, because the one method grew into the other, and all the grades between are well known and may be studied by those who wish to learn them. This book is intended only to point out the main line of descent. In the attempt

to tell this main line to others most people find the subject so complicated that they hesitate even to try to tell it.

This telling is almost a science in itself, requiring years of study and preparation in order to perform it simply and intelligently. This is one reason why many fathers and mothers do not talk of the subject with their boy. They feel that it is too big for him to understand, and that he would only receive wrong ideas from their attempted explanations. So they leave him to find out for himself when he is older, in which case it too often happens that some boy comes along who pretends to know all about the matter, and *he* tells. And the less he knows about it the more he tells, and the more absurd is his story. Usually he arrives about as near the truth as the

foreigner did about the game of baseball.

Birth is not a matter to be mysterious or amused or vulgar over. It is the most serious and the very most beautiful, as well as the most necessary, thing that can happen in the world, and every living person who is old enough to think and reason should be told all about it; for in this way alone can be avoided those bitter mistakes that always accompany ignorance, whatever the subject may be—mistakes that always are to be regretted, but which in this particular case are worse than in almost any other, for they often run into filth, sometimes into disease and idiocy, and not infrequently into death itself. To prevent these mistakes by making the subject plain is one of the reasons why this little book is written.

Now most boys in our country have seen an alligator, probably, or if they have not, they may have seen a turtle. These animals are of the family, or families, which mark the point where the animals left the sea and began to live on dry land, or partly on dry land, just as the earlier plants did. They grew from the first cells by the laws of growth and variation.

At first they were mere cells, then they became plants in the sea, some of which floated away from their roots when they became ripe, and afterwards passed through other changes until they became amphibious—that is, they lived partly in water and partly on land.

The rhinoceros of Africa is another animal of this class, of a more advanced stage. But the most familiar example

is the frog, so we will take him as an illustration of an important step in the progress of reproductive methods. It should be remembered that all of these animals, from the first onward, can never come into being without a father and a mother, for the eggs of the mother, which grow inside her body, must be fertilized by the zoöspirms of the father before they can result in children.

We have seen how the wind carried the pollen from the stamen of one plant to the ovary of another, thus fertilizing it. In the frogs the principle is the same, though the method is different. The frog, being able to move about, requires no wind to carry his fertilizer. He carries it himself. At the time when the eggs are ripe in the female she begins to lay them, and the male frog places him-

self in such a position with regard to her that, as the eggs come out, he can allow his zoöspperms to mingle with them.

While in the case of the land plant the pollen was obliged to enter the ovary of the female in order to fertilize the seeds and produce offspring, in the case of the frog it is not so. The eggs are first produced from the female, and as soon as they come out they are fertilized by the male. And then, after the fertilized eggs have remained apparently motionless for a time, as we have seen was the case with the weed's cells when they had mingled with each other, the young frogs appear, at first in the shape of tadpoles.

Their birth is only a beautiful variation of the first birth and of all other births. As the buds grow out on the plants and trees these little tadpoles come forth, only

62 THE FIRST LAND ANIMALS

they are not attached to the parent stem, as are the buds on the bushes and trees, but can move about freely. And they are such an early example of animal growth that they come to be at home both in the water and on land, as the turtles are, or the alligators, and so forth.

But with the higher growths, the growths that come later in the scale of life than the frogs, such as the fowls, for example, the process of reproduction has become so varied that it is necessary for the zoöspperms of the male to enter the ovary of the female, or hen, just as is the case with the flowers; in which we see again repetition of method with a new form. For in order to accomplish this the male, or rooster, has a stamen, on the principle of the flowers, which

contains zoösperms, as the stamen of the flowers contain pollen, and this he places in such a way that the contents may reach the tiny eggs within the ovary of the female, or hen, thus fertilizing the eggs before they leave the mother.

Then the eggs come forth. They are "laid" as we say, and after lying apparently motionless for a while they become chickens, just as the frog's eggs become tadpoles which grow into frogs, and the flower's seeds become plants which grow flowers.

In short, it is the same old principle all over again with a new element added—an element that seems at first glance to be new, but which in reality is an old form in disguise; for the rooster's stamen is nothing more than a different shape of the flower's stamen, and the eggs of

64 THE FIRST LAND ANIMALS

the hen are, while they remain in her body, the same old seeds, in a different form, which we have seen in the ovaries of the plants.

VIII

WHERE A BOY COMES FROM

NOW we can begin to see the exact truth as to how a boy comes to birth, for it is in a manner similar to that in which a chicken is born. At first he is one with his mother, a part of her, as much as her eyes are parts of her, or her hands, or ears. He is a tiny seed within her, or an egg, just as she was once an egg within her own mother, and as every human being once was an egg.

This egg is so small that it would require two hundred and forty of them, lying side by side, to make a string an inch long. But when it is fertilized by the father, and has lain apparently

motionless for a while, as we have seen is the case with all fertilized eggs in every class of growth, it begins growing in the mother's body, to come forth finally into the world as a new growth form weighing from six to fourteen pounds. Then the seed has come to be what we call a baby. And, like all the other new forms, no sooner has he been born than he begins to grow, to become in time a boy, a youth, a man; and finally he marries and has children of his own.

This seems to be the great object of all life—to produce children and carry on the race, whether that race is of the single-cell variety, or the plant variety, or the animal variety, or the human variety. In all the higher growths, whether of plants or animals or men, the organ of reproduction in the male is one

form or another of a stamen, and that of the female is an ovary.

In short, a boy is made and lies in his nest at first as an egg, in a manner which closely resembles that in which a chicken is made. The boy and the chicken come from similar sources, the one from a fowl's egg, the other from a human being's. This is the order of nature. It is as natural and as necessary as the blowing of the winds, the swimming of fishes, the flight of birds, and the falling of rain or the glow of sunshine. It is all to the end that the earth may be beautiful and pleasant to live upon, peopled by a human family that may be happy and honored and great.

The stamen, which grows in one form or another on every male member of the higher families of plants, animals, and

all men; and the ovary, which grows in every female—these two are the sacred bonds which hold all things to life. Without them there could be no such things as plants, no animals, nothing to eat, no clothes to wear, no houses to live in. Without them the earth would be a dreary waste, as it was before these organs came to people it and cover it with grand forests, beautiful plants, and magnificent cities with all their wealth of attractions.

It is to these organs that we owe our brains and eyes and hands, which enable us to build lofty sky-scrapers and railroads and steamboats, by aid of which we travel all over the earth. They enable us to paint beautiful pictures, produce lovely music, write entertaining and instructive books, and invent base-

ball. In short, it is the stamen and ovary that enable us to live at all, for they are the source and beginning of all life on earth, and the means of continuing it so that it shall not die out.

It is self-evident that organs of such vital importance should be as far as possible out of reach of any injury that might destroy them, or hinder their functions, and to this end nature has placed that of the female, the ovary, inside the body. But with the male it is not so. With the male it is outside, though in human beings it is placed on that part of the body where the danger of injury is very much reduced, for it is protected from all ordinary misadventures by the thighs, which are on both sides of it. The chief danger that can come to it is from within, from the male himself.

and this consists in his not taking proper care of it. It is very delicate, and, having its natural and right uses, will remain well as long as it is put to those uses and no other. One of these uses is that of passing off some of the bodily secretions. In order to wash and keep clean the inside of our bodies we are compelled to take in much more water than is necessary as drink alone, and the surplus must flow out, having cleansed the parts. And it flows out by way of the stamen. The other use for it, and the only other use, is to reproduce our kind, when we have grown to manhood and become strong enough to do so, as is the case with the animals and flowers. But until we have grown up, until we have grown ripe, so to say, like the pollen-bearing flowers, the only use to

which we should put it is that of passing off the bodily secretions at such times as nature itself indicates.

In the flowers this stamen is so fragile that it is easily destroyed. In the animals it becomes more robust outwardly, but it also becomes much more complicated within, being made up of a network and mass of nerves, fibers, and so forth, which are so sensitive and delicate that they are easily injured by rough handling. And, once injured, in the human body the organ is likely to become the source of great pain, misery, filth, and disease. Many a boy or man is to-day an idiot or invalid of some kind because of carelessness in this respect, or because of mere ignorance. For the results of ignorance may be as bad as those of carelessness.

Every boy's father has gone through just what the boy is going through now, in the broad sense, and he knows from experience how to care for this part of the body properly. Therefore every boy should go to his father to find out all about the matter at first hand, to make sure of never suffering in the future from such ignorance as has ruined so many boys and men, physically and mentally.

There are some things which custom has made it good taste to do only in private, like bathing, undressing, going to the closet, and so forth, and a discussion of the reproductive functions is one of them. It is not because such discussion is wrong, any more than bathing is, or undressing to go to bed. It is because, like these, it is a private matter. But, also like these, it must and should

be done, each act in its place. In some countries, like Africa and the West Indies, children run around without any clothes on, because it is the custom and nobody notices or thinks anything about it. But in America the custom is to go clothed, and anybody who did not do so would attract a good deal of attention. Nakedness is right in its place, but that place is not on our streets or in our parlors. It is the same way with talk about the stamen and ovary in the human family. This talk has its place, given it by custom, which has shown that it is best for it to be there, and there it should be kept. And that place is, for a boy, at the present stage of civilization, with his own father in private.

IX

SUMMARY

THE first appearance of life on the earth was in the shape of a drop of jelly-like substance, which we call a cell. It was produced by the shining of the hot sun on a certain portion of the sea or the land. Thus, in the large sense, the sun was the first father, a ray of its light the first stamen, and the earth was the first mother, in whose ovary the first seed of life was contained, ready to be fertilized so that it might grow.

The first method of reproduction was the dividing of this cell into two parts, both just alike, neither of which could be called either father or mother in the

true sense, the sense in which we use the words to-day.

It was reserved for the flowers to introduce the male and female principles, the father and mother, and this they did by inventing the stamen to represent the male and the ovary the female. In the stamen grew a yellow powdery substance, called pollen; in the ovary grew numbers of minute particles called seeds, or eggs. When these eggs in the female were fertilized by the pollen of the male new growths, or children, came into being, and they were just like the parents.

In the sea grew plants whose flowers, upon coming to maturity, floated away from their roots, swimming and moving about more or less freely, thus being able to meet and mate with other plants of the same kind; for these had now be-

come what we call animals, and they marked the point in the advance of life forms when the plant first became an animal.

After a time some of these animals came to live ashore, at first partly on the land and partly in the water, like the turtle and alligator and frogs. With the frogs it was not necessary that the male principle be mingled with the female principle inside the body; it was sufficient that the zoösperms cover the eggs as soon as they were produced from the female.

But with the higher or later animals, such as fowls, the eggs of the female must be reached by the pollen or zoösperms of the male before they were laid, and to this end the male or rooster was provided with a stamen of such shape

that it could reach the eggs and fertilize them properly.

With the great majority of animals this is the method of reproduction to this day, as it is with human beings.

The stamen and ovary are the most important parts of the human body, the source of all life and the means of carrying on the race. They are delicate in construction. The male organ is a network of nerves and fibers, so sensitive as to be easily injured, and is so situated that it is protected from all ordinary dangers by the thighs, which are on both sides of it.

The chief source of danger for this member is within the male himself, and arises from carelessness or ignorance. It has two uses only, one of which is to act as a canal for the outflow of waste

Ht 28702

water in the system. The other is that of reproduction, but that does not come until the boy has grown up. Consequently, for a boy, it has but one use.

The care of this member is of so much importance with all male human beings that too much cannot be learned about it, in regard to its care and functions. As the father of every boy has had just the experience that would be valuable for the boy to know about, it is to his father that the boy should go for information that will save him from making the mistakes that have proved the ruin of so many boys and men.

Lastly, among many valuable lessons taught us by the history of the plants and animals, there is one of supreme importance, which, if a boy knows it, will help him vastly in all matters. It is

the value of knowing the strength and force of habit. We have learned that after once forming a habit of growth or reproduction, after once forming any habit of living, it required long, long years, perhaps ages, for the plants or animals to break away from it and do it differently or not at all. And even when they seemed to break away from it they did not really, or did so only in a degree, for they kept it up in some new form, or some variety of the old form. Indeed, some of them, as we have seen, never were able to change at all, and live to-day as their ancestors lived before them. It is so much easier to keep on doing a thing after doing it once than it is to break off and do something else, that one of the wisest men the world ever knew, Epictetus, said that generally,

if you wish not to continue doing a certain thing, you would better not do it the first time. Whatever the thing is, if it is good and you wish to be able to do it continually, try it the first time. The second time it will come easier, the third still easier, and so on and on, until it will become a habit, as we call it, and you may do it without effort, often unconsciously. If it is a bad thing, and you do not wish to become a victim to it, never do it the first time, for after that it is much harder to resist doing it the second time and so on and on, the difficulty of resisting it increasing as you do it more and more.

The reason of this is that the force of habit is born within us. We inherit it from the plants and animals, who, through countless ages, went on doing

the same things over and over again. It was only the best among them that ever succeeded in breaking away from these habits. And it is from these best ones that we have descended. Let us profit by their example, and never do at all the thing that we do not wish to keep on doing, while we begin at once doing, or trying to do, the thing that we wish to do habitually.

(The End.)



728

1

1

2

JUL 11 1951

